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Ectopic Pregnancy.

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ECTOPIC PREGNANCY.[1]

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The subject of ectopic pregnancy, as presented in this paper, refers mainly to that disaster in its earlier stages ; that is, from the time of its occurrence to the time of rupture into the cavity of the the broad ligament, or, secondarily, into the peritoneal cavity.

To Dr. Arthur W. Johnstone, of Cincinnati, we are, perhaps, more indebted than to any other investigator, for throwing light upon the pathological cause of this condition. Though he is in perfect accord with the well known views of Mr. Tait, his pains-taking investigations in the comparative anatomy of the endometrium in the lower animals have led him a step farther. As is well known, the amœboid cell begins the life of all viviparous animals. From this cell is formed the hypoblast, the epiblast, and, finally, the mesoblast, a nutrient menstruum being necessary to this formation, and only provided in the lower animals, Dr. Johnstone tells us, when in rut, but the human endometrium being ever ready to enter the myeloid state, and at the same time provide this nutrient fluid, pregnancy may occur at any time. The layer of adenoid tissue beneath the lining epithelium, filled with lymph until the menstrual flow, provides this food and makes the placenta. He also believes that this lymph of the mother maintains the life of the fœtus during its earlier stages of development. The adenoid tissue extends to the Fallopian tubes, and when the cilia are destroyed by disease it is almost analogous to the tissue lining the cavity of the uterus. These views of Dr. Johnstone confirm his ingenious theory of menstruation, and at least make plainer the conditions necessary to produce an ectopic pregnancy.

During the last three or four years the subject has been attentively studied, and many valuable papers have been written, and the result has made it possible to recognize a peculiar clinical history, and reasonably distinct and positive signs in many cases ; that is, they are sufficiently so to warrant a very fair guess, at least, as to diagnosis. At the same time, when the history and symptoms are as plain as this terrible misfortune can make them, probable conclusion is arrived at mainly by exclusion. On the other hand, the condition is so masked by the indefinite history and symptoms that a diagnosis is impossible in other cases. The abdominal cavity has been opened and an ectopic pregnancy found in cases in which either a wrong diagnosis had been made, or it had not been even sus-

1 Read before the Detroit Gynecological Society, February 3, 1892.

pected. In other cases again, the condition may exist without any symptom whatever, except, perhaps, arrested menstruation, until rupture and hemorrhage into the abdominal cavity. The character of the pain is perhaps among the most reliable symptoms. Its severity has compelled the patient to seek advice. It is usually situated low down in the abdomen, is colicy, and produces faintness. While it may be produced by the extension of the rupture from time to time, it is more likely the result of recurring hemorrhage. She has probably been married a number of years without having been pregnant, or not for four, five, or eight years; there is a history of preexisting uterine disease from which she may have recovered; she has missed her menses once or twice; shreds of membrane mixed with clots of blood may have been expelled; she may have the general signs of normal pregnancy; there may be cyanosis of the vaginal mucous membrane; the cervix may be enlarged, soft, and the os patulous; the body of the uterus is either displaced forward against the symphysis pubis or to one side of the pelvis or the other; on examining the pelvic roof, on one side the signs may be negative, and the other may be tense and tender, possibly cystic, or a mass may be felt behind the uterus in the cul-de-sac of Douglas; pulsation may or may not be present, and the abdomen may or may not be enlarged. With such a history, the presumptive evidence is quite clear, and the diagnosis becomes more probable if followed by the signs of hemorrhage; in fact, very few but would suspect ectopic pregnancy. But can any one be absolutely certain without opening the abdomen?

It has been my privilege to have seen seven cases of ectopic pregnancy, four occurring in my own practice, or that of my friends, and three in the practice of Mr. Tait. They so impressed me, and so firmly convinced me as to the proper treatment, that I will briefly state them. Experience, though a severe teacher, is to most men the only avenue to prompt decision. He would be happier who could learn as well in another way.

The first case occurred in the practice of Dr. Schnetzler, of Toledo, who called me in consultation September 1, 1884. The menses had been regular up to January 26, 1884, occurring at that date and suddenly ceasing, which event the patient attributed to a hard cold induced by getting wet a few days previously. Severe pain in the abdomen soon followed, and the physician called diagnosticated inflammation of the bowels. The history from that time up to July 6, when Dr. Schnetzler was called, was clearly that of ectopic pregnancy, differing only from ordinary cases of the kind left to themselves, in being alive. Dr. Schnetzler, who was the fourth physician who had been called to the case, had diagnosticated pregnancy, and believed it to be extra-uterine. Presuming the rupture to have occurred at the sixth or eighth week, which, no doubt, was the cause of the severe pain January 26, she must have been at full term. The pains at this time were like irregular labor pains. An operation at

this time was absolutely declined. September 4, however, it was agreed to and accordingly performed, desperate as were the chances. An incision five inches long was made in the linea alba, through the peritoneum, thus exposing an apparently cystic tumor, which proved to be the placenta, and which was cautiously avoided. The position of the child could not be determined before the operation. The hand was passed to the left side within the peritoneal cavity and a foot found just to the left of and above the umbilicus. Notwithstanding the scrupulous care taken to avoid the placenta, the delicate membrane enclosing it ruptured, producing such frightful hemorrhage that death upon the table seemed imminent. The rupture could not have occurred from handling, for the placenta was hardly touched at all. It was now quickly removed and a strong ligature thrown around the bleeding mass, and the hemorrhage immediately ceased. The principal point of attachment was the right side of the pelvis, only slight adhesions existing elsewhere. Following the foot of the child as a guide, the body was found to occupy the left hypogastrium—the head beneath the ribs—well toward the posterior part of the abdominal cavity, completely entangled within and hidden by the intestines and omentum, both of which were adherent in a dozen or more places. A coil of intestine was so intimately adherent to the neck of the child that it could not be separated, and a piece of integument was snipped off. Aside from this the adhesions were easily and quickly separated. The child was not enclosed within a sac. The abdominal cavity was well cleaned, a drainage tube inserted, and the patient put to bed. The operation lasted 20 minutes. (I hope I may be excused for mentioning the time in this case, for you should know that the fatal result was not due to a prolonged operation.) There was partial recovery from the collapse, and consciousness regained, but the patient died within about four hours after the operation.

In this case the operation was done as a *dernier resort*, and done as soon as possible under the circumstances, but had it been done at the time of primary rupture, January 26, the result no doubt would have been far different. A post-mortem examination was not allowed.[2]

The second case came under my observation December 13, 1888, three days before her death, having been under the care of Dr. S. S. Lungren, of Toledo. The patient was about 34 years old, and had never been pregnant. She had been ill for about three years with tubo-ovarian troubles, and about three months before her death she began to complain of pelvic tenderness, which increased at times, and which the Doctor thought was due to effusion into the pelvic cellular tissue. For ten days or so before her death, and at three or four different times she had

2. The first case related was reported in detail at the time in the *American Journal of Obstetrics*, and Mr. Tait's cases were reported in a letter from Birmingham to *The Toledo Medical and Surgical Reporter*. The first case is also the second one on record, as far as I am aware, in which the child was entirely free in the peritoneal cavity, not encapsulated at all, Mr. T. R. Jessop's case being the first.

attacks of severe pain, would almost collapse, would recover again, and complain of faintness. The Doctor regarded these conditions as due to hemorrhage within the pelvic cavity. She was intensely jaundiced and had been so for about three weeks. Menstruation had been regular throughout her entire illness, and for the last three months rather profuse. No positive diagnosis had ever been made. My friend and assistant, the late Dr. A. S. Waite, who made the post-mortem examination, and who saw the case with me, in his report says: "She was in this collapsed, dying condition when Dr. Kirkley first saw her, and after as thorough an examination as the condition of the patient would allow, he expressed the case as hopeless, giving no opinion as to the causation of the trouble, but with his own suspicions pointing strongly to extra-uterine pregnancy." Five days before death, and two days before coming under my care, she was tapped through the vaginal wall on the right side, the operator expecting to find pus, but a quantity of blood was drawn off. During the night and following day, hemorrhage from the puncture was profuse.

From Dr. Waite's report of the post-mortem examination I condense the following: "The abdominal cavity was partly filled with clots which formed an accurate cast of the intestines. The cavity of the true pelvis was shut off from the abdominal by a complete wall, which was a little higher upon the left than upon the right side. It presented exactly the appearance of an extra-peritoneal effusion which had filled the entire pelvis, distending both broad ligaments, and flattening out the folds of the left so that it formed the roof or limiting wall of the effusion. The swelling appeared to be principally in the left ligament, distending and elevating the two folds, and peeling them off from the sides of the pelvis, so that they formed a complete dome-shaped roof. In the posterior portion, just forward of the psoas muscle, upon the right side, was a small stellate perforation, from which issued the blood which had filled the abdominal cavity. On the left side, posterior to the Fallopian tube, the membrane was firm and elastic, and about half an inch in thickness. The cavity below was filled with thick, dark, tar-like blood. About a quart was removed, when some pieces of placenta were found, and then a fœtus at about the fifth month. The placenta was large and attached over the entire surface of the curvature of the sacrum; in one or two places it had begun to degenerate; the umbilical cord was broken down and separated from the placenta, but the fœtus showed no signs of degeneration. The tube and ovary were very indistinct, and could scarcely be traced at all, but on the right side they occupied relatively their normal position."

The third case occurred in my own practice. I had treated the patient seven years previously for chronic endometritis, with stenosis of the cervix. Dysmenorrhœa had been a troublesome symptom since the beginning of menstruation, and for its relief she sought my advice. She

was completely relieved of this trouble, and had considered herself well for the last six years. She was a large, healthy-looking woman, weighing perhaps one hundred and sixty pounds. I was called to see her December 22, 1889. She informed me that she had missed her menses once, and that she believed that her long cherished wish to become a mother would at last be realized. I shall never forget her joyful exclamations at the prospect. It was now again nearly time for her menses, and, feeling that she was about to menstruate, and fearing that she might abort, I had been sent for. She had little or no pain, but as an anodyne I gave her an eighth of a grain of morphia, and enjoined rest in bed. She had the usual signs of beginning uterine pregnancy, and at this time I concurred in her own view of her case, extra-uterine pregnancy never entering my mind. On December 26, however, she was attacked with quite severe pain, colicy in kind, and followed by faintness. Though suspicious that the pregnancy might be ectopic, I was somewhat shaken in that belief when the patient was so promptly relieved by an hypodermatic injection of morphia. The uterus was developed to about the second month, the os soft, but there was not the slightest tumefaction behind it or on either side. I concluded to await further developments, and I may be permitted to say that I shall never again allow the golden opportunity of saving a valuable life to pass without an effort in her behalf in the right direction. Though she was kept in bed, the pain did not again recur until six o'clock on the morning of the 28th, when I was hastily summoned. The awful calamity that had befallen her dawned upon me instantly. She was pale, almost pulseless, extremities cold, and piteously crying for help. Examination, per vaginam, gave entirely negative results. While applying the usual treatment, I had sent for my friend and colleague, Dr. Collamore, who fully coincided with my view of the case. She lingered until about four o'clock in the afternoon, when she died from hemorrhage. At no time during the day did we think an abdominal section warrantable. And again, I want to say that I shall never again allow collapse from intra-abdominal or intra-pelvic hemorrhage to deter me from attempting to save the life of a patient. As much as death upon the table is to be deplored, still, it is preferable to allowing the patient to die unaided, and the reflection on surgery, to my mind, is not so great. A post-mortem examination the next day showed the entire correctness of our diagnosis, the rupture having occurred into the broad ligament, and secondarily, into the peritoneal cavity. The pregnancy was at about the eighth week of gestation, and had the usual ectopic enveloping membranes. The peritoneal cavity was filled with blood.

The fourth case occurred in the practice of Dr. J. A. Wright, of Toledo, to whom is due the credit of making an accurate diagnosis. I was called in consultation on the night of December 13, 1891. Patient had been ill about two weeks, with such vague symptoms that a diag-

nosis was hardly possible up to the time of rupture, which, no doubt, occurred on the night of December 12, and was followed by the usual signs—internal hemorrhage and collapse. Patient was 34 years old; married in 1876, and the mother of two children, aged 14 and 5 years, respectively. Since the birth of the last child she had been treated by the late Dr. Smart, of Toledo, for "womb troubles." She had missed her menses once, and was near the next menstrual time, when her illness began. The usual signs of pregnancy were absent. She did not regard the arrested menses as a sign of that condition in her case, because she had been more or less irregular at times since the birth of her last child. She was above the average size, and had the appearance of one in fair health up to the beginning of her illness. She was pallid, the pulse about 100, not very strong, and the temperature 101°. Revelations per vaginam were to me entirely negative, except the exquisite tenderness, not only within the pelvic roof, but over the entire lower part of the distended abdomen. Dr. Wright, however, was sure that he could feel a mass within the cul-de-sac of Douglas. That she was suffering from internal hemorrhage there could be no doubt, and immediate laparotomy was advised. She being comfortable, however, from morphia, and it being in the night, we concluded to wait until the next morning. We saw her at 8:30 that morning. She had slept well, the pulse had fallen to 96, and the temperature to 100, and the tenderness had entirely disappeared. She expressed herself as feeling "perfectly well." We were inclined to think that perhaps the operation might not be so urgent after all, but the history and the experience of the previous night was so positive that even a wayfaring man could not fail to heed. To my own mind, one of the best guides in the diagnosis of this condition, and, it may be said, one of the plainest indications for operation, is the complete subsidence of all the symptoms, however violent they may have been. The patient was at once removed to the woman's department of the St. Vincent Hospital, where laparotomy was performed at 12 o'clock noon, Dr. Bodman giving the anæsthetic, and ably assisted by Drs. Wright and Hattie D. Walker. On opening the peritoneal cavity, it was found filled with dark-colored and partly coagulated blood. The fingers were passed to the mass, which occupied the right broad ligament, seized at its base with a long hæmostatic forceps and ligated off. An hæmatosalpinx and diseased ovary were found on the left side, and removed. I take pleasure in showing you the specimen. The embryo can be seen just escaping from the ruptured tube. Aside from slight neurotic complications, she made a good recovery, and left the hospital about January 20.

I had the pleasure of seeing Mr. Tait operate for ectopic pregnancy three times during the summer of 1891. Two of these cases occurred the same day, May 8, 1891—one at his private hospital, the other at the Birmingham Hospital for Women. The first patient

was 35 years old and the mother of three children, the youngest five years old. Sudden pain resembling labor, faintness, a slight discharge of blood and enlargement of the abdomen were the symptoms. She had been tapped per rectum and a large amount of offensive, dark colored fluid drawn off. A cystic mass could be felt low down in the abdominal cavity which extended to the umbilicus. The uterus was displaced forward. No diagnosis had been made. On opening the peritoneal cavity what appeared to be a cyst was exposed. A small quantity of fluid was drawn off, and the mass, which was found to be an ectopic pregnancy of about eight weeks, ligated. The second patient was 38 years old, and married. A cystic mass could be felt behind the uterus and to the right side. The abdomen was slightly enlarged. The degenerated mass was brought out and tied off, and found to be an ectopic pregnancy, five or six weeks advanced. The third case had been diagnosticated a pyosalpinx. When Mr. Tait introduced his fingers through the incision he said "extra-uterine pregnancy." The mass was removed and found to be an ectopic pregnancy of about eight weeks' duration. The three cases made a good recovery. Mr. Tait has operated fifty times for ectopic pregnancy with a mortality of six per cent.

This paper is not presented that anything new can be said upon the subject of ectopic pregnancy, but with the hope that the experience related may contribute in the important directions of diagnosis, and a fixed and positive course of treatment. It may be said that it is too limited to be of value, but a limited experience may contribute something toward the proper line of practice in such cases. Nothing, in my judgment, could be more irrational in the treatment of such conditions than galvanism, and following close upon it are injections of various kinds with a view of destroying the fœtus. Though they may accomplish what is claimed for them, the principle of their application is wrong, and the results can be but disastrous. Admitting that they kill the fœtus, which I believe is all that is claimed for them, to my mind most effectually condemns them, for, as Dr. Johnstone tells us, the fœtus and placenta have a separate existence and both must be killed before the pregnancy will cease to grow. I hope that the time may come, and my belief in the progress of our profession convinces me that it will come, when laparotomy will be the only recognized method in the treatment of ectopic pregnancy.

From the history of the four cases related we may conclude—

1st. That the diagnosis previous to rupture was sufficiently certain in all of them to warrant laparotomy.

2d. That excessive pelvic and abdominal tenderness is a fairly reliable sign of hemorrhage, and points strongly to ruptured tubal pregnancy as the cause, made more probable if it disappears with the subsidence of the general symptoms.

3d. That a sudden relief from all the symptoms is a strong diagnostic sign, and almost a positive indication for operation. This is perhaps the most misleading point in the history of ectopic pregnancy.

4th. That it is possible in many, perhaps in most cases, to make a reasonably sure diagnosis previous to rupture, and that in doubtful cases laparotomy should be performed, thus giving the patient the benefit of the doubt.

5th. That collapse from hemorrhage is not necessarily a contra-indication in laparotomy for ectopic pregnancy.

6th. That laparotomy is the only rational treatment in all cases requiring treatment.